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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/410,836	10/02/99	SHIH	67,200-207

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QM02/1219

EXAMINER

CIRIC, L

ART UNIT

PAPER NUMBER

3743

DATE MAILED:

12/19/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

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# Office Action Summary

Application No.

09/410,896

Applicant(s)

Shih

Examiner

Ljiljana V. Ciric

Group Art Unit

3743



☒ Responsive to communication(s) filed on Oct 2, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-20 is/are pending in the application.

Of the above, claim(s) none is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-20 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because it does not avoid redundant terminology, such as “are provided” in line 2 and also because it refers to the purported merits of the application, as in line 7, where it is stated that “the present invention novel apparatus and method is effective”.

Correction is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities: “wafer fab” [page 2, line 12] should be written out in full, as “wafer fabrication facility”, for example..

Appropriate correction is required.

3. The use of the trademarks “VLSI” and “ULSI” have been noted in this application. These should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### *Claim Rejections - 35 U.S.C. § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 through 8 and claims 16 through 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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For example, with regard to claim 1, there is insufficient antecedent basis for “a cooling liquid to flow therethrough” as cited in line 6 of the claim.

With regard to claims 6 and 7 as written, for example, there is a discrepancy between the preamble and the limitations in the body of each claim, in that it is not clear whether the intended metes and bounds of protection sought encompass the subcombination of a cooling stage for a semiconductor substrate as recited in the preamble of claim 1 and all depending claims, or whether these encompass the combination of a such a cooling stage together with a cool-down chamber as recited in the body of claim 6 or claim 7.

With regard to claim 16, for example, it is not clear what exactly is being claimed by the recitation of the limitations “such that a cooling fluid flows through said...grooves to cool said high temperature processed wafer, thereby rendering claim 16 and all claims depending therefrom indefinite. First of all, there is insufficient antecedent basis for either the recitation of a cooling fluid or for the recitation of said wafer. Second of all, there appears to be an attempt to claim process steps in an apparatus claim.

The above is an indicative, but not necessarily an exhaustive, list of 35 U.S.C. 112, second paragraph, problems. Applicant is therefore advised to carefully review all of the claims for additional problems. Correction is required of all of the 35 U.S.C. 112, second paragraph problems, whether or not these were particularly pointed out above.

***Claim Rejections - 35 U.S.C. § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. As best can be understood in view of the indefiniteness of the claims with regard to the apparatus claims, claims 1 through 3, 6 through 10, 13 through 18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Moslehi.

Moslehi discloses the invention essentially as claimed, including a semiconductor substrate characterized by both concentric and radial grooves enabling cooling. See Figure 3, for example.

The reference thus reads on the claims.

***Claim Rejections - 35 U.S.C. § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. As best can be understood in view of the indefiniteness of the apparatus claims, claims 4, 5, 11, 12, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moslehi.

As indicated in greater detail above, Moslehi discloses the invention essentially as claimed, except for not specifying the dimensions of the grooves to be exactly within the ranges of the instant invention. Nevertheless, barring unexpected results, it is not inventive to merely optimize the size ranges of an element, such as the grooves in the instant case. See *In re Reven*, 156 USPQ 679 (CCPA 1968).

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Thus, it would have been obvious to one skilled in the art at the time of the invention to modify the size of the grooves of the substrate of Moslehi in order to best meet given cooling needs under given manufacturing conditions.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Getchel et al. (both patents) each discloses a cooled workpiece chucks for use with semi-conductor assemblies.

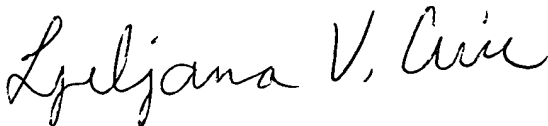
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (703) 308-3925.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus, can be reached on (703) 308-1935. The fax phone number is (703) 305-3463.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

lvc

December 18, 2000



LJILJANA V. CIRIC  
PATENT EXAMINER  
ART UNIT 3743